

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF GEORGIA  
ATLANTA DIVISION**

**JEFFREY GADDY,**

**Plaintiff,**

**v.**

**1:14-cv-1928-WSD**

**TEREX CORPORATION, TEREX  
SOUTH DAKOTA, INC., and  
TEREX UTILITIES, INC.,**

**Defendants.**

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**OPINION AND ORDER**

This matter is before the Court on Plaintiff Jeffrey Gaddy’s (“Plaintiff”) Motion to Exclude Certain Opinion Testimony of Vijay K. Saraf, Ph.D., P.E. [378] (the “Motion”).

**I. BACKGROUND**

Defendants Terex Corporation, Terex South Dakota, Inc., and Terex Utilities, Inc. (collectively, “Defendants”) intend to offer Dr. Saraf, a registered professional engineer with a doctorate in civil engineering, to testify at trial as an expert in structural mechanics, fatigue design, and stress concentration areas. (Brief in Opposition to Plaintiff’s Motion to Exclude Certain Opinion Testimony of Vijay Saraf [389] (“Response”) [389] at 4). Dr. Saraf specializes in the

investigation of failures of steel, concrete, composite, and wood structures and components, damage assessment and design of repairs, and analysis of the effects of blast or impact. (Dr. Saraf’s Expert Report [378.2] (“Expert Report”) at 6).

Dr. Saraf’s expertise extends to the evaluation of bridges, buildings and building components, pipelines and other buried structures, storage tanks and silos, shoring systems, cranes and mechanical equipment, and marine structures. (Id. at 38).

Dr. Saraf has performed numerous reviews of design and construction/installation procedures to check for code compliance and/or assess available margin of safety in manners relating to structural or process failure. (Id.). He states that “[he] is familiar with the ANSI Standard for ‘vehicle mounted elevating and rotating aerial devices,’ ANSI 92.2, and other SAE and ANSI Standards regarding cranes and lifting devices.” (Id. at v). Dr. Saraf received his Ph.D. in civil engineering from the University of Michigan in 1997. He is a member of the American Society of Civil Engineers, the American Institute of Steel Construction, and the Society of Petroleum Engineers. (Id. at 39). He has also published numerous articles—primarily related to engineering issues surrounding bridges. (Id. at 39-40).

The opinions Dr. Saraf may offer at trial, and which Plaintiff seeks in his Motion to exclude, are as follows:

- (1) The fatigue cracks at the failure location likely existed for *many years* prior to the accident and would have been observed had the unit been

properly inspected and maintained. . . . Mr. Morrill's FEA models are also inconsistent with Plaintiff's expert Dr. David Pope's assertion that it took *over five years* for the cracks to form in the incident boom. . . . Dr. David Pope testified that the cracks that led to the boom failure were quite significant in length and had existed for *several years* prior to the boom failure. ([378.2] at vi, vii, 21, 26).

- (2) At the time of the incident, both the incident aerial device and Ace Tree Surgery's other XT Series aerial device (S/N 2030621804) contained several cracks that would have been discovered had they been properly inspected and maintained. The incident bucket was badly damaged from years of use and should have been repaired prior to the incident. . . . Post-incident inspections revealed additional cracks at the turntable weldment (Figure 6a), the lower boom cylinder connection to the elbow cylinder in the incident boom (Figure 6b), and in the upper boom connection to the elbow cylinder in both aerial devices (Figure 7). These are large cracks and should have been discovered during routine and periodic inspection if these inspections had been performed. ([378.2] at vi, 8).

## II. DISCUSSION

### A. Legal Standard

Under the Federal Rules of Evidence, expert testimony is admissible if:

- (1) the expert is qualified to testify regarding the subject matter of his or her testimony; (2) the methodology that the expert used to reach his or her conclusions is sufficiently reliable; and (3) the expert's testimony will assist the trier of fact in understanding the evidence or in determining a fact at issue. United States v. Scott, 403 F. App'x 392, 397 (11th Cir. 2010) (citing United States v. Frazier, 387 F.3d 1244, 1260 (11th Cir. 2004)) (en banc); Fed. R. Evid. 702.

An expert “may be qualified in various ways.” U.S. v. Frazier, 387 F.3d 1244, 1260-61 (11th Cir. 2004). That is, “[w]hile scientific training or education may provide a possible means to qualify, experience in a field may offer another path to expert status.” Id. at 1261. Experience standing alone is not, however, “a sufficient foundation rendering reliable *any* conceivable opinion the expert may express.” Id. Instead, “the *reliability* criterion remains a discrete, independent, and important requirement for admissibility.” Id.

The reliability of a scientific expert opinion may be established by evaluating a number of factors, including (1) “whether the expert’s theory can be and has been tested; (2) whether the theory has been subject to peer review and publication; (3) the known or potential rate of error of the particular scientific technique; and (4) whether the technique is generally accepted in the scientific community.” Id. at 1262. Further, “[t]he same criteria [] used to assess the reliability of a scientific opinion may be used to evaluate the reliability of non-scientific, experience-based testimony.” Id.; see also, Kumho Tire Co., Ltd. v. Carmichael, 562 U.S. 137, 152 (1999).

The last requirement—that the opinion assist the trier of fact in understanding the evidence or determining a fact at issue—may be satisfied where “it concerns matters that are beyond the understanding of the average lay person.”

Id. For example, expert testimony “generally will not help the trier of fact when it offers nothing more than what lawyers for the parties can argue in closing arguments.” Id. at 1262-63.

B. Analysis

Plaintiff seeks to exclude Dr. Saraf’s testimony regarding the length of time that the main crack existed in the Subject Boom prior to its collapse and the preexistence of additional cracks in other areas of the Subject Truck. Plaintiff argues that Dr. Saraf should be prohibited from offering these opinions for two reasons. First, Plaintiff contends that Dr. Saraf’s opinions are metallurgical in nature and Dr. Saraf is not a metallurgist. ([378] at 9). He thus should be prohibited from providing metallurgical opinions or “parroting” those metallurgical opinions of Plaintiff’s metallurgy expert, Dr. David Pope. (Id.). Plaintiff next argues that Dr. Saraf has no basis for his conclusion that additional cracks in the Subject Truck’s steel predated the Subject Boom’s collapse because he examined only one photograph without performing additional testing or an in-person inspection. (Id. at 14).

Plaintiff’s argument that Dr. Saraf must be a metallurgist to testify to the existence of cracks or the likelihood of the length of their existence is unconvincing. It is evident from Dr. Saraf’s extensive background and

qualifications that he is qualified to testify to these topics. Dr. Saraf specializes in failure analysis and damage assessment. ([378.2] at 38). He has “performed numerous reviews of design and construction/installation procedures to check for code compliance and/or assess available margin of safety in matters relating to structural or process failure.” (Id.). He has more than ten publications relating to failure and stress analysis and load testing of bridges and other structures. (Id at 39-40). Dr. Saraf need not provide an analysis or description of the molecular composition of the materials exhibiting cracking to offer an expert opinion as to how and when fatigued structures exhibit cracking.<sup>1</sup>

Plaintiff’s objection that Dr. Saraf possesses no basis for his conclusion that additional cracks in the Subject Truck’s steel predated the Subject Boom’s collapse because he analyzed only one photograph without performing additional testing or an in-person inspection is also without merit. Defendants in their Response clarify

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<sup>1</sup> Plaintiff argues that Dr. Saraf is “parroting” Plaintiff’s metallurgy expert, Dr. David Pope (“Dr. Pope”). The Court holds Dr. Saraf is not. He is offering his independent opinion based on the facts in this case, and the expertise and experience that he has developed over the years enable him to opine on structural failures. The Court notes that Dr. Saraf, like the Defendants’ other experts Jay Sturm and David Blair, also may accept the testimony of Dr. Pope regarding how long the crack or cracks existed in the Subject Boom in offering his opinions regarding the stress and fatigue of the Subject Boom.

that Dr. Saraf's opinion is not "simply based on photographs, but also Dr. Saraf's independent analysis of the design of the XTs, including his understanding of load capacity and reported cracking on other XT booms." ([389] at 14-15).

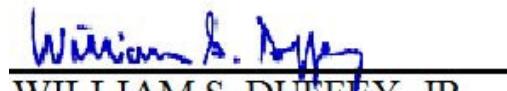
Defendants also note that Dr. Saraf used "hundreds of high definition photographs of every inch" of the Subject Truck in reaching his conclusion. (Id.). The Court agrees that there is enough evidence to support that Dr. Saraf employed numerous tools in conducting his analysis and reaching the conclusion that additional cracks in the Subject Truck predated the Subject Boom's collapse. Dr. Saraf is qualified to opine on this topic, and the record shows that he has a reliable basis for doing so.

### **III. CONCLUSION**

For the foregoing reasons,

**IT IS HEREBY ORDERED** that Plaintiff Jeffrey Gaddy's Motion to Exclude Certain Opinion Testimony of Dr. Vijay Saraf [378] is **DENIED**.

**SO ORDERED** this 13th day of October, 2017.

  
WILLIAM S. DUFFEY, JR.  
UNITED STATES DISTRICT JUDGE